

Attorney Docket No.: FUJO 16.216 (100794-11220)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant(s): Koji MATSUYAMA et al.
Confirmation No.: 7540
Serial No.: 09/336,363
Filed: June 17, 1999
Title: DETECTION DEVICE OF A SPREADING CODE AND A TIMING,
...
Examiner: Kevin Kim
Group Art Unit: 2611

January 6, 2009

REPLY BRIEF

Board of Patent Appeals and Interferences
Assistant Commissioner for Patents
Washington, D.C., 20231

Sir:

Appellants submit this Reply Brief in response to the Examiner's Answer mailed on November 6, 2008. All requisite fees may be charged to Deposit Account No. 50-1290.

In response to Appellants' August 15, 2008 Appeal Brief, the Examiner maintained that the cited references adequately suggest the claimed storage unit features.

The Examiner argued that alleged "Applicants' Admitted Prior Art" ("AAPA") described in the Background section of the application discloses

"During the second correlation operation[,] the same received signal is correlated with a plurality of spreading codes, which are different from the common spreading code used in the first correlation operation. The sliding correlators (1005) carry out this function ..." Page 5, lines 13-16 of the Examiner's Answer. (Emphasis added)

And the Examiner further contended that

"there is no reason not to read the three time shifted versions of a spreading code as a plurality of spreading codes defined in the claim." Page 5, line 20 et seq. of the Examiner's Answer. (Emphasis added)

Appellants respectfully point out that the Examiner has misquoted the claim language, which requires that the

"second correlation determination [be performed] between the received signal and a plurality of *kinds* of spreading codes that are *respectively* different from the common spreading code..."

Accordingly, there is actually no reason to read three time-shifted versions of the same spreading code as a plurality of *kinds* of spreading codes that are *respectively* different from a common spreading code. Such "time shifted versions of a spreading code" can reasonably interpreted by one skilled in the art, at most, as

"a first correlation determination between a received signal and a common spreading code with regard to a plurality of base stations by shifting a relative timing between the received signal and the common spreading code..." as claimed. (Emphasis added)

Thus, the Examiner's continued reliance upon the description of sliding correlators 1005-1 to 1005-3 in the Background section of the application as alleged AAPA disclosure of the claimed second correlation determination is improper.

Correspondingly, the Examiner's Answer provided improper arguments and inadequate support for combining alleged AAPA with the disclosure of U.S. Patent No. 5,768,306 to Sawahashi et al.

As Appellants have already established, Sawahashi et al. only describe a sliding correlator having a memory circuit 43 at its input stage for storing a received signal for establishing initial synchronization for a given spreading code sequence. And notwithstanding the Examiner's inconsistencies with asserting and combining the references as described above, the Examiner further alleged that the memory circuit 43 described in Sawahashi et al. would provide for the following:

“Thus, a received signal may be correlated with different spreading codes (i.e., time shifted versions of a spreading code). With the use of a memory to store a received signal, Sawahashi et al clearly teaches the benefit of allowing a same signal to be correlated with different spreading codes a plurality of times.”
Page 6, lines 8-11 of the Examiner's Answer.

But again, this “time shifted versions of a spreading code” can only reasonably be interpreted by one skilled in that art as correlation “by shifting a relative timing between the received signal and the common spreading code.” And the Examiner failed to properly address the claim language with respect to the second correlation determination:

“second correlation determination [be performed] between the received signal and a plurality of kinds of spreading codes that are respectively different from the common spreading code...”

In addition, the Examiner contended that the description of memory storage of a received signal in Sawahashi et al. suggested a combination with alleged AAPA to store a signal long enough to perform both first and second correlation determinations:

“Instead, the received signal is stored for one symbol period and a plurality of correlations, i.e., m correlations, are carried out, where each correlation last for one chip period.” Page 7, lines 1-2 of the Examiner’s Answer. (Emphasis added)

But Sawahashi et al. only describe the m correlations for one spreading code—not even time-shifted versions, let alone different kinds of spreading codes. Please see col. 6, lines 1-3 of Sawahashi et al. Thus, the relied upon “m correlations” does not provide any suggestion for storing any signal beyond correlations for one spreading code.

In view of the foregoing, Appellants respectfully submit that the Examiner has clearly used the claimed invention as a blueprint to improperly alter the disclosure of alleged AAPA and Sawahashi et al. to account for the claimed second correlation determination between a received signal and a plurality of kinds of spreading codes that are respectively different from a common spreading code, when neither includes even a suggestion of such a determination based on a timing obtained by a separate first correlation determination between the received signal and the common spreading code by shifting a relative timing.

In the Examiner’s Answer, the Examiner, once again, argued that alleged AAPA suggests the claimed second determination, and thus, a combination with Sawahashi et al. to yield the claimed invention. But again, the cited portions of the Background section of the present application only include description of sliding correlators 1005-1 to 1005-3 conducting correlations of a received signal with “three time shifted versions of a spreading code” that the Examiner contended would constitute different spreading codes from a common spreading code. Page 5, line 20 et seq. of the Examiner’s Answer.

As discussed above, such “time shifted versions of a spreading code” can reasonably interpreted by one skilled in the art, at most, as

“a first correlation determination between a received signal and a common spreading code with regard to a plurality of base stations by shifting a relative timing between the received signal and the common spreading code...,” as claimed. (Emphasis added)

And as Appellants have pointed out in the Appeal Brief, the only reference to different spreading codes in the alleged AAPA cited by the Examiner accounts for maintaining correlation values for different “candidates” for spreading codes inherent in each base station with the timing code storage circuit 1011:

“the timing code storage circuit 1011 stores the totaled values of correlation values for the number of candidates for the spreading codes of a perch channel.” Page 8, lines 8-13 of the specification.

Therefore, even assuming, arguendo, that it would have been obvious to one skilled in the art to combine alleged AAPA and Sawahashi et al., such a combination would still have failed to disclose or suggest,

“[a] mobile station corresponding to DS-CDMA performing a first correlation determination between a received signal and a common spreading code with regard to a plurality of base stations by shifting a relative timing between the received signal and the common spreading code, and performing a second correlation determination between the received signal and a plurality of kinds of spreading codes that are respectively different from the common spreading code based on a timing obtained by the first correlation determination, said mobile station comprising: a storage unit storing the received signal over a time long enough to perform both the first correlation determination and the second correlation determination; and a control unit using same received signal having been stored in the storage unit for performing the first and second correlation determinations,” as recited in amended claim 13. (Emphasis added)

Accordingly, Appellants respectfully submit that claim 13 is patentable over AAPA and Sawahashi et al., separately and in combination, for at least the foregoing reasons. Claims 14 and 17-18 incorporate features that correspond to those of claim 13 cited above, and are, therefore, patentable over the cited references for at least the same reasons.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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